

## **Encode and Decode TinyURL** [\(View\)](#)

Note: This is a companion problem to the [System Design](#) problem: [Design TinyURL](#).

TinyURL is a URL shortening service where you enter a URL such as `https://leetcode.com/problems/design-tinyurl` and it returns a short URL such as `http://tinyurl.com/4e9iAk`. Design a class to encode a URL and decode a tiny URL.

There is no restriction on how your encode/decode algorithm should work. You just need to ensure that a URL can be encoded to a tiny URL and the tiny URL can be decoded to the original URL.

Implement the `Solution` class:

- `Solution()` Initializes the object of the system.
- `String encode(String longUrl)` Returns a tiny URL for the given `longUrl`.
- `String decode(String shortUrl)` Returns the original long URL for the given `shortUrl`. It is guaranteed that the given `shortUrl` was encoded by the same object.

### **Example 1:**

**Input:** `url = "https://leetcode.com/problems/design-tinyurl"`

**Output:** `"https://leetcode.com/problems/design-tinyurl"`

### **Explanation:**

```
Solution obj = new Solution();  
  
string tiny = obj.encode(url); // returns the encoded tiny url.  
  
string ans = obj.decode(tiny); // returns the original url after decoding it.
```

### **Constraints:**

- `1 <= url.length <= 104`
- `url` is guaranteed to be a valid URL.